

## Rockland Capital

### FINAL COMMENTS TO THE ILLINOIS COMMERCE COMMISSION'S WORKSHOP ON RESOURCE ADEQUACY IN MISO ZONE 4

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Rockland Capital (Rockland) appreciates this opportunity to provide comments to the Illinois Commerce Commission (ICC). Rockland has been an active participant throughout this proceeding and thanks the ICC and the ICC staff for the significant effort invested on this important issue. Rockland previously submitted pre-workshop comments and post-workshop comments after the December 7, 2017 workshop meeting.

In its initial comments, Rockland highlighted its position as the owner and operator of approximately one GW of natural-gas fired generation, reviewed the current state of the Midcontinent ISO (MISO) capacity market, identified the structural issues plaguing that market and the corrosive effect those issues have on investment signals, and identified the Resource Adequacy risks uniquely worn by southern Illinois/MISO Zone 4. In its post-workshop comments, Rockland addressed some of the issues raised by stakeholders during the December 7, 2017 meeting, more fully articulated the Resource Adequacy problem in southern Illinois, and set forth a detailed solution proposal.

The deregulated nature of the Illinois market place, coupled with the failure of the MISO capacity market to send efficient or useful investment signals, is causing investors and essential generation resources to consider exiting southern Illinois. This issue must be addressed in the near-term. A solution that appropriately values the reliability contributions of resources situated in southern Illinois, and introduces competitive market dynamics – like the proposals set forth by Rockland and Dynegy – should be adopted.

Below, Rockland addresses each of the questions in the ICC's Final Comment Outline.

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#### I. Resource Adequacy Standards

- A. How should resource adequacy be defined and how does resource adequacy compare with or contrast with resiliency and reliability?

*Response:* Resource Adequacy, reliability, and resilience are a hierarchy of terms that each build upon the other. The first term, Resource Adequacy, means having enough generation supply to meet consumers' energy demand. Resource Adequacy provides the basis for Reliability.

Reliability refers to the strategic planning process used to calculate future demand and adopt best practices to ensure that investment is made in the infrastructure required to meet this need. You cannot have reliability without Resource Adequacy.

Resilience refers to a higher order of reliability planning to ensure that our energy infrastructure is sufficiently robust to respond to outlier events like cyberattacks, extreme weather events, or sudden changes in fuel availability. Said differently, resiliency is nested within reliability and describes the ability of the Bulk Electric System (BES) to absorb and respond to high impact, low probability events.

The North American Electric Corporation (NERC) defines Resource Adequacy as the ability of electric supply resources to meet electric demand across multiple time horizons.<sup>1</sup> The standard for Resource Adequacy in the Midcontinent ISO (MISO) market is a 1-in-10 Loss of Load Expectation (LOLE). The 1-in-10 LOLE standard required by MISO means that planning reserves are “high enough that involuntary load shedding due to inadequate supply would occur only once in ten years.”<sup>2</sup> A capacity shortage means that there are insufficient supply resources in a constrained or unconstrained area to meet demand on a 1-in-10 basis.

- B. What entities currently address resource adequacy, how do they do so, and how sufficient are such current measures?

*Response:* In southern Illinois, MISO Zone 4, MISO and MISO’s Independent Market Monitor each assess Resource Adequacy but to date no entity has “addressed” Resource Adequacy. While MISO’s tariff provides for it to ensure Resource Adequacy in its zones absent a state body that does so, it has been reluctant to do so and would rather rely on state solutions. In a current proceeding at the Federal Energy Regulatory Commission (FERC), MISO has pointed to

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<sup>1</sup> See, NERC Glossary of Terms at 48.

<sup>2</sup> See also, The Brattle Group & Astrape Consulting, *Resource Adequacy Requirements: Reliability and Economic Implications*, prepared for the Federal Energy Regulatory Comm’n at iii (September 2013). The 1-in-10 LOLE standard is a widely used metric to evaluate resource adequacy. It is used to evaluate resource adequacy in every RTO and ISO, in both constrained and unconstrained portions of those footprints.

the ICC workshops as evidence that its deregulated jurisdictions are taking action and that MISO's Resource Adequacy construct is meant to complement such state programs to ensure Resource Adequacy.<sup>3</sup>

As it stands, southern Illinois is a deregulated energy jurisdiction. As such, southern Illinois relies on wholesale market price signals, specifically those created by the MISO Planning Resource Auction (PRA) to attract sufficient investment to develop or retain resources. When there is a disconnect between capacity market prices and the marginal value of the reliability benefit provided by capacity resources, market prices send inefficient price signals that negatively impact Resource Adequacy.

In other MISO areas, the vertically integrated utility model prevails. In these jurisdictions, it is common for the state or state public service commission to work with incumbent utilities to develop and approve Integrated Resource Plans (IRP). These IRPs establish the development and retirement cycle of generation resources and ensure Resource Adequacy for the respective state's customers in the short- and long-run.

State regulatory bodies like the ICC have the authority to address Resource Adequacy through establishing a Planning Reserve Margin (PRM).<sup>4</sup> MISO also establishes a PRM for the entire footprint, which is a percentage value above the forecasted Coincident Peak Demand for capacity resources that is needed to meet Resource Adequacy requirements, satisfy the 1-in-10LOLE standard, and account for transmission losses. Although the MISO Tariff allows for MISO to determine the PRM based on its study methods, MISO defers to state regulatory bodies to set a PRM that is higher or lower than that set by MISO, and to apply that PRM to Load Serving Entities under that state's jurisdiction.

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<sup>3</sup> See, *Motion for Leave to Answer and Answer of Midcontinent Indep. Sys. Operator, Inc.* at 7, FERC Docket ER18-462 (January 29, 2018).

<sup>4</sup> MISO Tariff, Module E-1, Section 68A.1, Establishment of Planning Reserve Margins ("The Transmission Provider will determine a Planning Reserve Margin (PRM) using analytical study methods described in Section 68A.2, provided that if a state regulatory body establishes a PRM for its regulated entities that is higher or lower than the PRM determined by the Transmission Provider, then the state-established PRM will apply to the Coincident Peak Demand of LSEs under that state's jurisdiction.").

On a related note, the MISO System Support Resource (SSR) designation and process is not directly related to capacity reliability or Resource Adequacy. Rather, the SSR process aids in the continued reliable operation of the transmission system in light of retiring generation. The SSR process cannot force a generation resource to remain online indefinitely, but is used to delay a unit's retirement while a transmission solution is developed. This means that MISO will lose the generation and capacity associated with the retiring unit, but will develop any needed transmission assets to ensure power can flow without violating transmission-specific operating criteria.

## II. Resource Adequacy Measurement

### A. How much generation is currently available to meet Zone 4 resource adequacy requirements?

*Response:* Information related to the volume of generation internal to Zone 4 and currently eligible to serve Zone 4 in near-term planning periods is typically made available for public review in the MISO-OMS Survey. Rockland notes that much of the information related to addressing specific examples is confidential.

Rockland notes that the capacity values for individual traditional generation resources is determined by taking the unit's installed capacity value and reducing it by a percentage amount tied to subject resource's forced outage rate. The assumed capacity factor for newly installed wind and solar generation resources in MISO is 15.6% and 50% respectively.

### B. What generation resources formerly meeting Zone 4 resource adequacy requirements have recently been lost due to retirement, derating, declining capacity factor, or otherwise?

*No response.*

### C. What current generation resources available to meet Zone 4 resource adequacy requirements are at risk of becoming unavailable going forward and what are the implications of the loss of such resources?

*Response:* Rockland does not have insight into the total amount of generation that is “financially at risk,” in danger of retirement, or otherwise considering a market exit. Rockland is the owner and operator of approximately 1,000 MWs of gas-fired generation resources located in MISO Zone 4 and reiterates its position stated in comments submitted earlier in this proceeding. Simply put, revenues from the MISO PRA are insufficient for Zone 4 to retain existing resources or to attract new resources. The 2017/2018 Planning Resource Auction cleared at \$1.50/MW-day. That near-zero price does not compensate capacity resources for their contributions to the reliability of Zone 4. As mentioned in its pre-workshop comments, a failure to address the persistent undervaluation of capacity resources in MISO will force Rockland to consider investing capital in areas outside of southern Illinois. Rockland, in the past, has physically relocated natural gas-fired generation resources from one area of the country to another, and will investigate similar strategies here if the revenue sufficiency and structural market issues remain unaddressed.

In the event these issues remain unresolved, Illinois will see resources continuing to exit. It should be noted that if Illinois would have lost a portion of its nuclear generation fleet – including approximately 1,000 MWs in southern Illinois – if not for the passing of the Future Energy Jobs Act. Significant market exit of generation would likely have three impacts. First, the retirement or relocation of resources means that Illinois communities would lose jobs and significant sources of tax revenue. Second, the market exit of generation resources in Zone 4 would likely push capacity prices near market caps. Therefore, those same communities that stand to lose the economic benefit associated with local power facilities would see a material increase in energy and capacity costs. Third, Zone 4 would become more reliant on generation external to Illinois to support internal reliability. Southern Illinois’ Resource Adequacy and reliability would be dependent on the decisions of other states that would not be required to consider the impact to Illinois during their respective decision-making processes related to Resource Adequacy.

- D. What are the prospects for new generation resources becoming available to meet Zone 4 resource adequacy going forward?

*Response:* In general, the prospect of new generation entering MISO Zone 4 are slim because of the inefficient price signal produced by the PRA. The 2017/2018 PRA resulted in a clearing price of \$1.50/MW-day. This is insufficient to attract new generation or to support the continued operations of existing generation.

There are, however, resources in the MISO interconnection queue that have preliminarily indicated an interest in serving Zone 4. The ICC's MISO Zone 4 Whitepaper noted the installed capacity values of these resources: 2,147 MWs of wind, 2,160 MWs of solar, and 57 MWs of natural gas. When MISO is evaluating the potential contributions of resources in the interconnection queue, it applied a 35% factor to those resource due to the regularity that such resources "drop out" of the interconnection process. Wind resources are subject to a 15.6% capacity factor, and solar resources are subject to a 50% capacity factor. Other planning resources, like new gas generation, see an application of a class average forced outage rate to determine the number of available capacity MWs.

Using these values, these 4,364 MWs of resources currently in the MISO Zone 4 interconnection queue only represents 514 MWs of capacity that can contribute to Resource Adequacy in the future.<sup>5</sup>

- E. What non-generation resources are and may be available to meet resource adequacy and how do such resources impact resource adequacy?

*Response:* Demand response and energy efficiency resources are eligible to assist in meeting the Resource Adequacy needs in MISO Zone 4. However, the failure of the MISO PRA to establish an efficient price signal has stifled market entry in the area. This is evident in a cursory review of the most recent capacity auction results in MISO and comparing those results to the results of the neighboring PJM region. For the 2017/2018 PRA for the 2017/2018 Deliver Year, MISO cleared 6,014 MWs of Demand Response and 98 MWs of Energy Efficiency. The PJM

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<sup>5</sup> In applying the capacity factors to the wind resources, there would be 334.9 MWs of eligible wind, 1,080 MWs of eligible solar, and 53.6 MWs of eligible capacity from the gas turbine. MISO's 35% scaling factor to account for uncertainty in project completion was then applied to those totals. See, MISO 2017-2018 EFORD Class Averages, available at: <https://cdn.misoenergy.org/2017-2018%20EFORD%20Class%20Averages87332.xlsx>.

capacity auction for the 2017/2018 Delivery Year cleared 14,118.4 MWs of Demand Response and 822.1 MWs of Energy Efficiency. The PJM system is only approximately 20 GWs larger than MISO's system.

F. How well do existing programs and initiatives predict future resource adequacy?

*Response:* Rockland does not view the MISO-OMS survey and the NERC 2017 Long Term Reliability Assessment as documents that accurately predict Resource Adequacy for Zone 4. While the MISO-OMS survey provides some insight, it is only a survey. Rockland notes that the MISO-OMS survey changes year-to-year based on stakeholder feedback, and the market positions taken by those stakeholders. Moreover, the NERC 2017 Long Term Reliability Report does not specifically mention Zone 4. It does, however, indicate shrinking reserve margins throughout the MISO region.

III. Market Design Impact on Resource Adequacy

A. What alternative opportunities are available to resources that could otherwise be used to meet resource adequacy in Zone 4 and how do these opportunities impact Zone 4 resource adequacy?

*Response:* Resources in Zone 4 have the opportunity to pseudo-tie out of the MISO region, deliver into another market area like PJM, and avail themselves of market prices in that other market area. Rockland notes that this path is available for resources, but is not necessarily sufficient to prevent those resources from retiring.

The pseudo-tie process in MISO is extremely complicated and expensive. Resources must reserve firm transmission to effectuate this process, which often costs millions of dollars. Recent rule changes allow for MISO to unilaterally terminate the pseudo-tie for various reasons based on updated assessments of its transmission system.

Moreover, MISO does not have an internal “point-to-point” transmission product that would allow for resources located in Zone 4 to deliver capacity in another zone and count towards meeting that other zone’s reliability requirement.

B. How does the transmission system impact resource adequacy?

*Response:* Resource Adequacy throughout the MISO footprint is affected by the ability for the transmission to deliver energy throughout the footprint to constrained and unconstrained areas. Additionally, transmission assets assist MISO’s “mutual insurance pool” concept of allowing excess to aid in supporting the reliability of the entire footprint. Reliability in MISO can only be maintained if there are sufficient generation resources to satisfy demand throughout the footprint, and sufficient transmission assets to deliver the energy.

Each year, MISO evaluates the transmission system to determine how much energy can be imported into and exported out of each of its Local Resource Zones. This evaluation leads to the establishment of Zonal Capacity Import Limits (CIL) and Zonal Capacity Export Limits (CEL). MISO uses the CILs to determine how much external generation each zone can rely upon to compliment internal generation to meet internal reliability requirements. The CELs are used to establish how many local resources can contribute to supporting region-wide reliability.

However, MISO reduces the volume of MWs procured in each zone by the CIL value and changes the CIL calculation frequently. This value is reflective of the system’s potential under certain operating conditions and not representative of the historical volume of MWs imported into each zone to support reliability within that zone.

C. How do facilities owned by municipals and cooperatives affect resource adequacy?

*Response:* To the extent that municipals and cooperatives own generation physically situated in Zone 4 that is not dedicated to serving reliability in other markets (i.e. pseudo-tied resources), such facilities help contribute to reliability in Zone 4.



- D. How does bilateral contracting, self-supply, and fixed resource adequacy planning affect resource adequacy?

*Response:* Bilateral contracting, self-supply, and fixed resource adequacy plans (FRAP) do not erode Resource Adequacy on their own merit. The manner in which MISO represents each of these items in the PRA, by allowing each of these be entered as a \$0/MW-day offer, suppresses pricing and is a structural defect in the market.

Bilateral contracting, self-supply arrangements, and FRAPs all result in out of market payments. That out-of-market behavior has shown to be the most significant driver in the MISO PRA by continuously eroding the price signal embedded in each clearing price. This has put Resource Adequacy in Zone 4 at risk. Mechanisms to mitigate the impact of out-of-market payments and behavior on capacity market clearing prices are essential to fully address the resource and revenue sufficiency issues in Zone 4.

- E. How do so-called out-of-market revenues (revenues separate and apart from those obtained in wholesale markets (e.g., Zero Emission payments or renewable energy credits) impact resource adequacy?

*Response:* Out-of-market revenues negatively impact Resource Adequacy in Zone 4 through the distortion and suppression of market price signals. Resources receiving out-of-market revenues become agnostic to market prices and offer resources into MISO markets at levels well below go-forward cost. These unreasonably low offers further suppress PRA clearing prices, erode the price signal created by the PRA, and in turn erode long-term Resource Adequacy.

#### IV. Scope

- A. Please provide commentary on any relevant substantive or process issue you believe has not been adequately captured in the Sections above.

*No response.*

V. Potential Policy Options

- A. What changes, if any, should be made to better enable measurement and assessment of what resources are available to meet Zone 4 resource adequacy requirements?

*No response.*

- B. What changes, if any, should be made to MISO's capacity construct including to the MISO planning resource auction to better ensure resource adequacy?

*Response:* The prompt timing of the MISO capacity market, the reliance on a vertical demand curve, the lack of market mitigation mechanisms, and voluntary nature of PRA participation all contribute to its excessive volatility and failure to produce a price signal. Currently, the PRA is held approximately two months prior to the start of the relevant Planning Year and establishes capacity pricing and compensation for a one-year period. This two-month space between the PRA and the start of the Planning Year is insufficient to allow for resources to make decisions regarding long-term participation in the MISO footprint, market exit, or the retention of capital. Ideally, to provide market participants with adequate time to make decisions on market participation, the MISO capacity auction or any capacity auction for southern Illinois, should be held three years in advance of the relevant Planning Year.

The vertical demand curve causes unnecessary volatility by pushing prices near zero even when there is a very small excess in the market, while pushing prices upwards towards the cap when there is shortage of only a single MW. As a result, it causes the PRA to fail to value capacity MWs at values consistent with their contributions to reliability. To address this, a sloped demand curve should replace the vertical demand curve.

The absence of market mitigation provisions to protect against the deterioration of the PRA price signal in light of subsidized resource participation further erodes the PRA price signal. It allows for resources to enter uncompetitively low offers that distort the price. Therefore,

Minimum Offer Price Rules should be installed to ensure that resources participating in the PRA behave competitively.

Lastly, there are no requirements for load regarding PRA participation. Due to the ability for load to “toggle” in and out of the market on a yearly basis, the volume of MWs secured in the PRA can vary widely year-over-year. To provide greater certainty on the demand-side, minimum participation duration requirements should be adopted. For example, if load opted-out of the PRA, a durational requirement would mandate load to remain out of the PRA for three years. Similarly, if load opts into the PRA, it should be required to do so for a period of three years. This modification partially aligns with the “must-offer” requirements imposed on previously cleared generation resources that are not designated as part of a self-supply or FRAP arrangement.

- C. What changes, if any should be made to MISO’s energy or ancillary service construct that would help maintain resource adequacy?

*No response.*

- D. What actions should the Illinois Commerce Commission and/or the Illinois Power Agency take, if any, to address resource adequacy assuming no new legislative authority?

*Response:* Without new legislative authority, it is likely the ICC cannot on its own fully address the Resource Adequacy issues facing southern Illinois. However, the ICC could inform FERC of MISO’s failure to fulfill its Tariff obligations to ensure Resource Adequacy in Zone 4. Per the MISO Tariff, specific mandatory requirements are imposed on MISO to ensure Resource Adequacy throughout its footprint<sup>6</sup>. Although MISO goes to great lengths to highlight its intention to not have its markets or rules supplant or encroach on state managed programs, it cannot simply ignore its Tariff obligations as they apply to deregulated market areas.

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<sup>6</sup> MISO Tariff Module E-1, Section 68A.

The ICC has the ability to submit a formal complaint, pursuant to Section 206 of the Federal Power Act, to FERC and request an Order that would direct MISO to follow its Tariff, install market mechanisms that support Resource Adequacy in Zone 4, and to end the existing practice of discriminating against market participants in deregulated areas. In fact, MISO has already admitted its existing Tariff is unjust, unreasonable, and unduly discriminatory and preferential to the detriment of market participants in its deregulated areas, specifically Zone 4. MISO acknowledged this when it filed its Competitive Retail Solution (CRS) with the FERC. FERC's ultimate rejection of the CRS was not because it disagreed with MISO's contention that its Tariff was unjust and unreasonable, but because MISO's proposed solution was not adequately supported.<sup>7</sup> MISO's attempt to bifurcate its capacity market was deemed to be less efficient than a market-wide clearing mechanism, and left open material issues.<sup>8</sup> After the rejection of the widely protested CRS proposal, MISO has taken no additional steps to ensure Resource Adequacy in Zone 4.

In MISO's letter to Governor Rauner in May 2017, MISO stated that they have not further attempted to fulfil their duty to ensure Resource Adequacy due to "current circumstances at FERC – including lack of quorum and uncertainty about timing of appointments and future leadership." They argued the situation made resolution of the Resource Adequacy issue at FERC through a rehearing of their CRS proposal unclear. Rockland is not aware why MISO has not revisited the issue now that FERC once again has a quorum.

Also, the ICC could intervene in existing and future proceedings at FERC that put at-issue MISO's capacity market, like the existing FERC Docket ER18-642,<sup>9</sup> to seek relief from the FERC that would require MISO to adhere to its Tariff and reliability obligations.

- E. What actions should the Illinois General Assembly take, if any, to address Zone 4 resource adequacy?

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<sup>7</sup> FERC, Order Rejecting Tariff Filing, Docket No. ER17-284 (February 2, 2017).

<sup>8</sup> *Id.*

<sup>9</sup> *Midcontinent Indep. Sys. Operator, Inc.*, Refiling of MISO 's Resource Adequacy Construct, FERC Docket No. ER18-462 (December 15, 2017).

*Response:* The Illinois General Assembly should consider establishing a Resource Adequacy Portfolio Standard, reconfiguring RTO participation, adopting the proposal set forth by Dynegy, or establishing an additional procurement mechanism like the one articulated by Rockland in this proceeding. Each of those options are an improvement over the existing construct. As more fully articulated below, the Illinois General Assembly should consider any market-based solution as it would improve the current circumstance for merchant resources located in southern Illinois.

Related to Rockland's support of Dynegy's solution, Rockland believes the Illinois General Assembly could adopt House Bill 4141 and Senate Bill 2250 to address the Resource Adequacy issues and revenue sufficiency issues impacting southern Illinois. The current market design and pricing is inadequate to incent the long-term retention of capital in merchant generation in Zone 4. MISO's broken market is not just inadequate for coal resources and unsubsidized nuclear resources, but also for efficient natural gas-fired generation

- F. Please describe any additional potential policy option(s) you would like to see considered or that you would recommend not be considered.

*Response:* In this proceeding, Rockland set forth a detailed proposal that it would like to be considered. Regardless, Rockland feels that doing nothing is unreasonable and should not be considered as an option in this proceeding.

Rockland proposed a solution to the Resource Adequacy issues impacting southern Illinois by suggesting mechanisms that would introduce market dynamics into southern Illinois. Rockland's solution proposed the establishment of a procurement mechanism to secure generation to maintain reliability to a 1-in-10 LOLE standard from resources located in MISO Zone 4 on a 3-year forward basis. This mechanism would set pricing using a sloped demand curve and impose Minimum Offer Price Rules on participating resources. The combination of these features would establish stable pricing driven by the competitive market dynamics in southern Illinois.

G. Is it important for any selected policy option to be market-based? If so, why? If not, why not?

*Response:* Yes. Market-based solutions provide the most efficient results for consumers and the best investment signals to merchant resources. Competitive markets have been shown to save consumers billions of dollars while pushing supply resources to perform better and more efficiently. A market-based solution would allow for merchant resources in MISO to compete with subsidized resources, and help establish a functional price signal with the appropriate structure.